

On the voice, distribution and habitat of Baumann's Greenbul *Phyllastrephus baumanni*

by Françoise Dowsett-Lemaire, Ron Demey & Robert J. Dowsett

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SUMMARY.—The song of Baumann's Greenbul *Phyllastrephus baumanni* was first tape-recorded in 2001, and since then this discreet bulbul, often misidentified in the past (Fishpool 2000), has been found at many new localities from north-western Guinea to western Cameroon, with an altitudinal range of 10–1,500 m. Following a description of the distinctive vocalisations, we list all new localities by country and include details of its ecological preferences. The species appears to be locally common in the forest-savanna (or Guineo-Congolian / Sudanian) transition zone, but is rather scarce at the margins of the Guineo-Congolian forest biome except in the Nimba / Loma highlands. It invariably occupies low, dense growth 1–2 m above ground (rarely up to 4–5 m), including fallow fields and *Chromolaena* farmbrush to thickets in transition woodland or in open semi-evergreen forest, under broken canopy. In the last situation it frequently comes into contact with White-throated Greenbul *P. albigularis*. It avoids closed, mature forest.

Fishpool (2000) produced a clear and critical account of acceptable records of Baumann's Greenbul *Phyllastrephus baumanni* across its relatively narrow range from Sierra Leone to Nigeria. The species has since been found in Guinea (Demey & Rainey 2004, 2006, Demey 2006, R. Demey *et al.* in *Bull. Afr. Bird Cl.* 15: 268), Benin (Dowsett & Dowsett-Lemaire 2011, and in *Bull. Afr. Bird Cl.* 18: 230) and western Cameroon (Bobo *et al.* 2007). This rather nondescript greenbul (Fishpool 1999) has been poorly documented in life and had been misidentified in publications as, *inter alia*, Slender-billed Greenbul *Andropadus gracilirostris*, White-throated Greenbul *Phyllastrephus albigularis* and even Brown Illadopsis *Illadopsis fulvescens* (Fishpool 2000). The voice had not been tape-recorded by the time Chappuis (2000) compiled his comprehensive collection of CDs. Based on definite records, mostly specimens and some verified photographs, Fishpool (2000) concluded that the species was absent from primary lowland rain forest, instead being associated mainly with the forest-savanna ecotone or transition zone, including mid-altitude forest on hills and slopes at 500–1,100 m. Some collectors noted that they obtained the bird low down, e.g. 'near the ground in thick foliage in second-growth' (Serle 1950), but many labels bear no details, the localities being associated with the presence of forest or thick bush without further specification. In Sierra Leone, G. Field (*in* Fishpool 2000) reported that he found the species widespread in the mid-altitude forests of the north, in the shrub layer of undergrowth or even in the 'open mid-layer', right down into 'proper' forest. The general conclusion reached by Fishpool (2000: 226) is that the bird, like other *Phyllastrephus* species, is not present in the canopy, but 'it is likely that (it) forages at or near ground level'.

In 2001 RD tape-recorded the species in Mont Sangbé National Park, Ivory Coast. In 2004 FD-L, helped by a copy of this tape, located the species in Kyabobo National Park in eastern Ghana, and obtained further recordings there (including of a bird singing while trapped in a mist-net) and elsewhere. Knowledge of the voice helped us locate more birds in the field, in Guinea, Sierra Leone, Liberia, Ivory Coast, Ghana, Togo, Benin and Nigeria, and we present here a description of the species' vocalisations and a reassessment of its

status, distribution and habitat preferences. Some of the more characteristic species sharing its habitat are cited; particular attention was paid to the presence of other *Phyllastrephus* greenbuls. Baumann's Greenbul was removed from Near Threatened (Collar *et al.* 1994) to Data Deficient (BirdLife International 2000, 2004) and has recently been downgraded to Least Concern (BirdLife International 2008). This decision is based largely on our observations, which we present here.

Voice

The song comprises a series of detached, disjointed notes, some of them reminiscent of the typical calls of Common Bulbul *Pycnonotus barbatus*. As described in Borrow & Demey (2001), it commences with 2–4 slightly nasal, rising notes, followed by a series of scolding *wik* notes. It could be transcribed *whu, whee, whueew, wik, wik, chuk, chuk, chuk* followed, after a slight pause, by another series of *whur, whur, whir, wik, wik, rrik, rrik, rrik...* The soft *whu* or slightly rolled *whur* notes are delivered more slowly (c.2 per second) than the louder *wik, wik, rrik, rrik* (often three per second), which are quite similar to those of Common Bulbul. The song is not far carrying, being uttered from the interior of low, dense growth. At times it may not be audible beyond a range of 20–30 m or even less. In the early morning the song may be given almost continuously for several minutes or more. At other times of the day, song phrases may be quite short, consisting of just a few notes with a pause of several seconds before the next phrase. Playback may bring the bird close, and sometimes even into the open atop a low bush, but most birds do not stay in view for long. We found no significant differences in songs tape-recorded from Guinea to Nigeria; birds in Sierra Leone, eastern Ghana and Benin tested with playback of a song from Ivory Coast were very prompt to react.

The distinction between calls and songs is not always clear, as these *wik Pycnonotus*-type notes may be given in isolation or as part of the song. Given less frequently, some call notes (probably alarm-calls) consist of a low churr, rather nasal: this was heard in several places in Ghana and Benin. In Benin soft churrs were given at the rate of one every two seconds (tape-recorded), and on another occasion highly stressed birds (mobbing or interacting with something we could not see) gave a fast series of short rattles *rree-rree-rree...* (8–12 per second, tape-recorded). Marchant (1953), who collected the species in Nigeria, gave a description of the voice that accords well with the song described above, mentioning a 'continuous clucking', some of which he compared to Little Greenbul *Andropadus virens* and some to the 'typical calls' of Common Bulbul.

Songs were heard at all seasons but sometimes only when provoked by playback. Overall, the species was more vocal after the start of the first rains than in the dry season.

A copy of the tape-recordings obtained by FD-L in Sierra Leone, Ghana and Benin has been deposited with the British Library in London.

Distribution and Habitat

Guinea (RD)

Pic de Fon.—One pair heard and seen at forest edge on 3 December 2002 at c.570 m, where the forest graded into derived savanna, and this, or another pair, was found c.100 m away next day (Demey & Rainey 2004). These were the first records for Guinea. In October 2008, the species was found at five additional sites in the submontane forest–grassland transition zone, at 1,189–1,494 m, and at a lower site in gallery forest, at 957 m. At three of the five high-elevation sites it occurred alongside Sierra Leone Prinia *Schistolais leontica* in dense

thicket-like, luxuriant herbaceous vegetation attaining 1.5–3.0 m height, with species such as *Brillantaisia owariensis* (often dominant), *B. lamini*, *Trinnifetta* sp. and various Asteraceae.

Mont Béro.—One singing in shrubbery at forest edge, where the forest graded into derived savanna, at c.600 m, in December 2003 (Demey & Rainey 2006).

Sarabaya (Boké Préfecture).—Just above sea level. In April 2005, seven pairs were found in farmbush, consisting principally of *Chromolaena odorata*, whilst one pair was in dense vegetation at the edge of degraded forest (Demey 2006). These records are the westernmost to date.

Mamou.—Singing birds found at four different sites just south of Mamou, at the edge of the Fouta Djallon, in farmbush and degraded bush savanna at 728–887 m, on 6–9 May 2008.

Konnoukan.—Two singing in farmbush (no *Chromolaena*) on the south-west slopes of Kounounkan Forest Reserve at 482 m on 12 May 2008.

Sangarédi.—In October 2010 four were found in north-western Guinea by M. B. Condé with the help of RD's tapes (*Bull. Afr. Bird Cl.* 18: 98).

Sierra Leone (FD-L, RJD, RD)

Gola Forest (a new locality, cf. Fishpool 2000: 225).—During a five-week survey in Gola in 2007 (Dowsett-Lemaire & Dowsett 2008), i.e. within the evergreen rain forest zone, the species was found only outside forest, in low second growth or farmbush at two sites. Both observations were made in an extensive area of regrowth 2–4 m tall, dominated by the invasive exotic shrub *Chromolaena odorata* 2–3 m high, overtopped by the pioneer tree *Hammigana madagascariensis*, which reached a height of 4 m. A few taller trees were dotted about, including oil palms *Elaeis guineensis*. At the first location (south of Gola West, 29 January), one bird flew across a small path chased by another, alighted on a bush at a height of c.2 m and gave a few *wik* calls and short songs (tape-recorded). Other characteristic birds in the area included Little Greenbul, Brown Illadopsis, Green Crombec *Sylvietta virens* and Western Bluebill *Spermophaga haematina*. One was also heard at Tunkia Nema, edge of Gola East, 6 February. The altitude of these localities is between 100 and 200 m.

Loma Mountains.—During 18 days of field work in February–March 2008, RD heard three individuals at separate sites in low, dense shrubbery at the forest edge (next to the territory of a Sierra Leone Prinia) and in thick, bushy vegetation just inside rather open forest at 1,300–1,400 m, and one in farmbush at c.400 m.

Liberia (RD)

Mount Nimba.—Baumann's Greenbul has been known to occur in this area since Forbes-Watson's field work in 1967–71 (Colston & Curry-Lindahl 1986). It was found at three new sites in 2008–09, at Mount Gangra, Mount Tokadeh and the East Nimba Nature Reserve. At Mount Gangra, two were heard at 750 m (8 July 2008) and 837 m (13 January 2009) respectively, in dense shrubbery with *Chromolaena*; other species present at the second site included Little Greenbul, Grey-backed Camaroptera *Camaroptera brachynra*, Yellow-browed Camaroptera *C. superciliaris* and Red-cheeked Wattle-eye *Dyaphorophya blissetti*. In the Tokadeh area, on 21 January 2009, one was heard in dense second growth at 505 m, where a Sooty Boubou *Laniarins leucorhynchus* was also present; a few hundred metres further at 520 m, a pair was foraging in shrubbery at the edge of cultivation 0.5–1.5 m tall, in the company of Grey-headed Bristlebill *Bleda canicapillus* and Yellow-browed Camaroptera. At East Nimba Nature Reserve, one was singing in *Chromolaena* within second growth at 509 m (15 July 2008). Previously, ten specimens had been collected in unknown habitats in the mine area (1,000–1,300 m) and at Grassfield at 550 m (Colston & Curry-Lindahl 1986, Fishpool 2000). Although it is reported to be rare to not uncommon in the north of the country by

Gatter (1997), this author states that Baumann's Greenbul is a fairly common canopy species in montane primary and secondary forest at Nimba and not an undergrowth species, which is incorrect.

Ivory Coast (RD)

Prior to 2000, Baumann's Greenbul was known only from Béoumi, where three specimens were collected by Lowe in 1922 (Fishpool 2000).

Mont Péko National Park.—This locality was added by Fishpool (2001), based on two birds mist-netted by H. Rainey in 2000 at c.940 m, in scrubby forest (H. Rainey *in litt.* 2001, and *in Bull. Afr. Bird Cl.* 8: 64).

Mont Sangbé National Park.—In April–May 2001, ten pairs were found at four sites in this national park. The birds occurred in the lower stratum of dense vegetation with *Chromolaena* at the edge of degraded forest patches, shrubbery and gallery forest. The song was tape-recorded here for the first time. The birds responded vigorously to playback, approaching the source of the sound whilst calling constantly, remaining mostly hidden, but sometimes flying over the observer and perching briefly in the open at a height of 4–5 m. In February 2002, the species was found at two additional sites within the park, including in the south-west, where five pairs were encountered along c.5 km of track. Unlike in April, the birds were mostly silent but responded to playback. One (or a pair) was in a mixed-species flock with Grey-headed Bristlebill, Green Hylia *Hylia prasina*, Blue-headed Crested Flycatcher *Trochocercus nitens*, etc.

Mont Tonkoui.—A pair was observed in dense vegetation along the track up the mountain in April–May 2001 and February 2002 at c.400–500 m.

Ghana (FD-L, RJD)

During 2004–05 and 2008–10 a total of 15 months was spent surveying the country's wildlife reserves and a large proportion of the forest reserves in the rain forest zone of the south-west, as well as in the forest–savanna transition zone. Prior to these surveys the species was confirmed from just three localities, all in the forest–savanna transition zone: it was collected at Ejura by Lowe, near Mount Kyabobo by Moyer and mist-netted at Cape Coast by Karr (Fishpool 2000).

We found this greenbul at >20 new localities. We met it most commonly in the hills of eastern Ghana, from Kyabobo National Park south to Amedzofe and Tanyigbe (for a full list of localities, see the Gazetteer). The species' ecology was studied in some detail in Kyabobo (Dowsett-Lemaire & Dowsett 2007), where the range of habitats used is representative of the forest–savanna transition zone of the eastern highlands. From Kyabobo south to Amedzofe, Baumann's Greenbul was invariably found in dense herbaceous or shrubby cover close to the ground, in the following situations: low farmbrush (old cassava or maize fields invaded by tall grass and frequently by *Chromolaena odorata*), rank grass and shrubs (e.g. *Alchornea cordifolia*) near streams, thickets in gardens, rank growth (often with *Chromolaena*) in forest clearings, thickets at the edge of riparian forest and in 'transition woodland' (mixed woodland and forest trees, with some lianas) or in open forest under broken canopy. Baumann's Greenbul was seen feeding low down, 0.5–1.2 m above ground, hopping from stem to stem; it occasionally perched in a shrub or small tree when alarmed, or provoked by playback, but was never seen perched at a height above 4–5 m. The other main bird species found in the more open situations were Little Greenbul and Simple Leaflove *Chlorocichla simplex*, Green Crombec and Grey-backed Camaroptera. In thickets within broken forest, other usual associates also included Grey-headed Bristlebill, White-throated Greenbul, Red-cheeked Wattle-eye, Brown and Puvél's Illadopsis *I. puvéli*, and Sooty Boubou. The overall

altitudinal range is 200–760 m (Amedzofe). Kyabobo National Park lies a few kilometres north of the locality where D. Moyer (*in* Fishpool 2000) collected a specimen in 1994, at an altitude of 610 m. Moyer described the general area but not the specific habitat occupied by the greenbul, and one might be misled into believing that it occurs there inside mature, closed forest.

In Kalakpa National Park, in the coastal plains of south-east Ghana (50–80 m), the forest forms several broad galleries in the Kalakpa River basin and is rather dense (Dowsett-Lemaire & Dowsett 2011c). Baumann's Greenbul was widespread on the lower edges, in dense understorey of transition woodland (under *Acacia*, *Anogeissus*, *Antiaris* and even teak *Tectona grandis*) as well as in low second growth with creepers and vines 1–2 m high under scattered exotic *Leucaena*, just outside the park's boundary. White-throated Greenbul was present alongside Baumann's in areas of broken-canopy forest.

In the transition zone of western Ghana, the greenbul is far more local and is common only in a narrow strip of secondary thickets, extending from 07°10'N to 07°25'N (*cf.* Gazetteer).

Surveys of the rain forest zone in the south-west suggest that the species is generally absent (e.g. in extensive areas of farmbrush surveyed around 05°15'–06°30'N), except at the margins of this region. Thus one pair was found once in a clearing at the eastern edge of Bia National Park (c.150 m; Dowsett-Lemaire & Dowsett 2011a), and one bird was seen in *Chromolaena* farmbrush below the Atewa Range (c.300 m), from where there are subsequent records (Dowsett-Lemaire & Dowsett 2011b). An earlier record accepted by Fishpool (1999, 2000) for the south-west is from Cape Coast, where Karr (1976), mist-netted and photographed the species in second growth—this is within the narrow coastal forest-savanna transition zone, but it must be uncommon there as we have not found it again.

The species appears commoner in the transition zone north of the forest zone, as in the south of Digya National Park (Dowsett-Lemaire & Dowsett 2009). Here it occurs in low growth at the edge of dry forest (with *Chromolaena odorata*), in low weedy thickets (with no *Chromolaena*) near the Obosum River, and in semi-open riparian forest on the Sumi River. Further west, it is or was locally common in the Afram Headwaters Forest Reserve, in a degraded section of this dry, semi-evergreen forest, in thickets under very light canopy, but the forest here is fast being destroyed by farmers (2010). It coexisted with White-throated Greenbul, Capuchin Babbler *Phyllanthus atripennis* and several *Illadopsis* species. Further west still, it is very common in derived thickets (following the destruction of forest) between Sunyani and Berekum, and at Pamu Berekum, alongside species such as Sooty Boubou and Red-cheeked Wattle-eye. It is in this area (Nsoatre) that C. M. Hewson (*in litt.* 2010) mist-netted two birds in full primary moult in November 2010.

Togo (FD-L, RJD)

Previously known only from four specimens, all taken in the western highlands, including the type collected by Baumann at Misahöhe (near Klouto) in 1895 (Fishpool 2000). Klouto was visited on 21–24 February 2010, and much of the western highlands on 18 March–4 April and 1–5 May 2011. Baumann's Greenbul was found throughout, i.e. at nine new localities, from Dikpéléou and Assoukoko forest south to Dzogbégan and Klouto (see Gazetteer for a full list). Altitudinal range was 230 m (Djodji) to 790 m (Dzogbégan). The range of habitats was identical to that in the highlands of eastern Ghana; the species was found locally alongside its congener, White-throated Greenbul, under light-canopy forest (Diguengué, and 10 km east of Kougnohou).

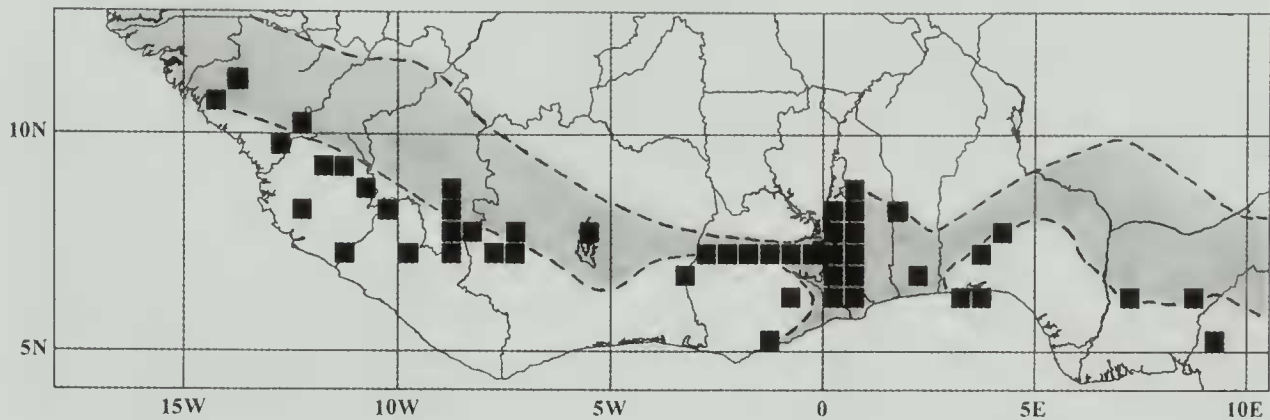


Figure 1. Map showing range of Baumann's Greenbul *Phyllastrephus baumanni*, with reference to the Guineo-Congolian / Sudanian transition zone (shaded). The position of the transition zone is based on White (1983), with slight modifications. The Guineo-Congolian forest biome is between the transition zone and the coast.

Benin (FD-L, RJD)

During a six-week survey of southern Benin in January–February 2009, Baumann's Greenbul was found in the Forêt Classée de la Lama, a large remnant of dry semi-evergreen forest and transition woodland (c.4,500 ha; 20–60 m altitude). These are the first records for Benin (Dowsett & Dowsett-Lemaire 2011). Some forest was cultivated until the 1980s and these sections have since reverted to transition woodland, with a canopy cover of 40–50% (mostly *Anogeissus leiocarpus* and *Lonchocarpus sericeus*). This is where Baumann's Greenbul occurs, confined to low dense growth with a mixture of *Chromolaena* and low thickets of *Lecaniodiscus cupanioides* and other species. The bird is locally very common and coexists with White-throated Greenbul in situations where woody thickets are more extensive and the canopy denser. In the one place where we erected a few mist-nets, four of each greenbul were caught together in the same mixed party and they were seen together elsewhere in the vicinity. Other common understorey species in this area included Grey-backed Camaroptera, Puvél's and Brown Illadopsis, and Red-cheeked Wattle-eye.

In April 2011 Baumann's Greenbul was found commonly at Tobé farm (edge of the Forêt Classée d'Agoua), an 800-ha area of woodland and fields that has regenerated into transition woodland and dry *Anogeissus* forest since it has been protected. The species was heard throughout the low dense understorey. The region between Lama forest and Tobé has not yet been surveyed and the gap between the two locations is probably artificial (cf. Fig. 1).

Nigeria (RD)

The vocalisations of a bird tape-recorded in dense shrubbery at the edge of degraded forest at the International Institute of Tropical Agriculture, Ibadan, in December 1997, were later identified as Baumann's Greenbul. L. D. C. Fishpool (*in litt.* 2010) tape-recorded the species at the same location on 21 October 2002, in the degraded, regenerating forest with *Chromolaena* in clearings. There was already a specimen record from Ibadan (Fishpool 2000).

Cameroon

The species was discovered in 2006 in an area of farmbrush (fallow cassava fields overgrown with *Chromolaena*) outside Korup National Park at an altitude of c.250 m, where four were mist-netted in the Abat-Mgbegati-Basu area (Bobo *et al.* 2007). A male caught on 25 February was in primary moult, while a female on 7 March was laying.

Discussion

The known range of Baumann's Greenbul now extends from north-west Guinea and Sierra Leone to western Cameroon (Fig. 1), taking Fishpool's (2000) verified records as a base, with the addition of many new localities (all listed in the Gazetteer).

On the basis of our observations, and of several specimens and confirmed sight records accepted by Fishpool (2000), Baumann's Greenbul appears to be fairly common in the forest-savanna transition zone, or Guineo-Congolian / Sudanian transition zone of White (1983). It is also common in the (sub)montane forest-grassland mosaic of the Nimba and adjacent highlands which White (1983) included in the rain forest zone *sensu stricto*, but which is close to and perhaps best placed in the transition zone. Within this belt, the bird occupies open areas invaded by dense low growth, i.e. natural clearings in semi-evergreen forest patches, or thickets in transition woodland, but also any other vegetation type that conforms to the appropriate facies, i.e. old cultivation invaded by rank grass and shrubs. We have never found it in the closed interior of forest, or more than 4–5 m above the ground. G. Field (*in* Fishpool 2000) mentions observing the species not just in undergrowth (e.g. streamside tangles) but 'also in the open mid-layer', alongside such species as Lemon-bellied Crombec *Sylvietta denti*: this we are unable to confirm, in more than 120 days of observations. In western Ghana the forest-savanna transition zone is very reduced, occupying a small strip between 07°00' and 07°30'N: the distribution of the greenbul fits so closely within this that it occupies a band of territory no wider than c.10–15 km.

Although Fishpool (2000) wrote that the species 'penetrates a little way into the Sudanian woodland zone' along the Ghana-Togo border, this would seem not to be the case. Fishpool placed the specimen record of Moyer (at 08°16'N) just north of the transition zone, but all of Kyabobo National Park is within this belt (Dowsett-Lemaire & Dowsett 2007). The northernmost records of the greenbul in this area are now at Koue, right on the border with Togo, at 08°31'N: this is on the northern edge of the transition zone, where dry *Auogeissus* semi-evergreen forest and transition woodland still occur. Fishpool's map also places some of the forest area on the Ghana-Togo border within the Guineo-Congolian biome. However, White (1983) included all of this area within the Guineo-Congolian / Sudanian transition zone, and the dry semi-evergreen forests of the region, mixed with transition woodland and small pockets of Sudanian woodland, certainly belong there (FD-L & RJD pers. obs.).

With reference to the Guineo-Congolian rain forest zone away from highlands, Baumann's Greenbul has been found only outside forest and mostly at or near the margins of this biome, either in extensive fire-created clearings (e.g. Bia National Park) or, more often, in second growth in old cultivation. In the latter situation it is almost invariably associated with the shrub *Chromolaena odorata*, a blue-flowered exotic Compositae originating in South America. In Ghana it was widely planted in the 1960s to suppress weed growth under electricity pylons (!) and thereafter spread extremely quickly (Hall *et al.* 1972; W. Hawthorne *in litt.* 2005). This weed grows faster after fire than native vegetation and is now considered to be an invasive pest. To some extent, however, birds seem to benefit from this aggressive weed: small sunbirds feed on the nectar and various insectivorous passerines take insects on its leaves. In Sierra Leone FD-L & RJD observed Tit-Hylia *Pholidornis russhiae* and Chattering Cisticolas *Cisticola anonymus* taking numerous white aphids from below the leaves. In Ghana this plant attracts large numbers of aphids, themselves attacked by Syrphid larvae (Hall *et al.* 1972). Although not native, *C. odorata* has close African relatives in the genus *Eupatorium* taken in a broad sense (and in which *Chromolaena* was earlier placed; Hepper 1963), and at least some native insects seem to find it very palatable.

Within the Guineo-Congolian biome the greenbul appears absent from the south-west corner of Ghana (in the evergreen and moist semi-evergreen forest zone) and is similarly unknown from southern Ivory Coast. Further west, as in Sierra Leone, there are pockets of transitional vegetation (even Sudanian woodland) in the west of the country (pers. obs.), and in the north, at Bumbuna, evergreen forest abuts woodland (W. Hawthorne *in litt.* 2007), at 09°03'N, 11°44'W, thus the transition zone is probably more extensive than shown on the biome map of White (Fig. 1). In any case, it is possible that the greenbul will gradually expand its range into the forest zone in the wake of deforestation. In south-west Ghana, some savanna species such as Vieillot's Barbet *Lybius vieilloti* and Tropical Boubou *Laniarius aethiopicus* are slowly expanding into very large clearings opened by mining activities or agriculture.

Overall, the species occurs from near sea level to 1,300–1,500 m, reaching its highest elevations in the transition zone or in the submontane block of Mount Nimba, in Guinea and adjacent Liberia, and in the Loma Mountains of Sierra Leone.

One of the two easternmost records, in south-east Nigeria (Ebok Boje, 06°17'N, 08°55'E), is based on a bird mist-netted and photographed by C. M. Hewson (*in* Fishpool 2000) in an abandoned cassava field. The altitude is not as stated but lies between 300 and 600 m (Important Bird Area NG027 *in* Ezealor 2001). The location of this record just west of the Obudu Plateau prompted Fishpool (2000) to surmise that Baumann's Greenbul might come close or even compete with the Afromontane Cameroon Olive Greenbul *Phyllastrephus poensis* around 1,000–1,200 m. From what we now know of their respective ecology, this is rather unlikely. Cameroon Olive Greenbul is a true forest species, occupying the undergrowth under fairly closed canopy, where it spends much time probing the bark of low trees or saplings, less often in small clearings under gaps (pers. obs. in Cameroon and Nigeria). The recent record of Baumann's in western Cameroon is from farmbrush 2.5 m tall, at an altitude of c.250 m (Bobo *et al.* 2007).

In several open forests of the transition zone, Baumann's Greenbul coexists with another *Phyllastrephus*, White-throated Greenbul (from at least Ghana to Benin). FD-L & RJD have not observed any aggressive interactions between them, although they are rather similar in size (Table 1) and they appear to occupy the same layer of vegetation. There are

TABLE 1

Measurements of Baumann's *Phyllastrephus baumannii* and White-throated Greenbuls *P. albigularis*. Wing length = max. chord, bill = from base of skull, and most weights taken using a portable electronic balance. The mass sample of *P. baumannii* under 'RJD' includes two measured by Karr (1976) and two by C. M. Hewson (*in litt.* 2010); weight data for this species in Keith (1992) are from Colston & Curry-Lindahl (1986).

	RJD (unpubl.)	Keith (1992)
Wing (mm)		
<i>P. baumannii</i> (m)	79.5–81.0 (80.1, <i>n</i> = 4)	71–82 (77.9, <i>n</i> = 10)
<i>P. baumannii</i> (f)	71, 75 (<i>n</i> = 2)	69–72 (70.5, <i>n</i> = 4)
<i>P. albigularis</i> (m)	79–88 (82.5, <i>n</i> = 39)	80–89 (83.5, <i>n</i> = 12)
<i>P. albigularis</i> (f)	68–79 (72.3, <i>n</i> = 32)	66–76 (72.8, <i>n</i> = 12)
Bill (mm)		
<i>P. baumannii</i> (m)	19, 21 (<i>n</i> = 2)	20–22 (20.6, <i>n</i> = 10)
<i>P. baumannii</i> (f)	18, 21 (<i>n</i> = 2)	17.5–21.0 (19.0, <i>n</i> = 4)
<i>P. albigularis</i> (m)	–	20–22 (21.2, <i>n</i> = 12)
<i>P. albigularis</i> (f)	–	18–20 (19.0, <i>n</i> = 12)
Mass (g)		
<i>P. baumannii</i> (m)	27.0–30.5 (29.5, <i>n</i> = 7)	27.3–32.9 (30.3, <i>n</i> = 5)
<i>P. baumannii</i> (f)	22.4–25.3 (24.1, <i>n</i> = 3)	23.5–26.5 (24.9, <i>n</i> = 4)
<i>P. albigularis</i> (m)	21.9–34.0 (25.5, <i>n</i> = 38)	24–31 (27.5, <i>n</i> = 23)
<i>P. albigularis</i> (f)	17.5–29.9 (20.3, <i>n</i> = 31)	17–28 (21.9, <i>n</i> = 24)

no differences in bill length, and although the males of White-throated appear, on average, longer winged, they are lighter in weight. The two greenbuls overlap where patches of transition woodland or very open forest (the domain of Baumann's) are gradually closing towards denser forest, thus bringing the two species into contact. This phenomenon may not be more than of brief temporal duration, but the feeding ecology of the two species in such circumstances would repay further study.

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Addresses: Françoise Dowsett-Lemaire and Robert J. Dowsett, Le Pouget, 30440 Sumène, France, e-mail: Dowsett@aol.com. Ron Demey, Walter Thijssstraat 9, B-3500 Hasselt, Belgium.

Gazetteer of localities, new since Fishpool (2000)

Benin

Forêt Classée de la Lama	06°58'N, 02°05'E
Tobé farm	08°19'N, 01°50'E

Cameroon

Abat-Mgbegati-Basu	05°22'N, 09°13'E
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Ghana (F.R. = Forest Reserve, N.P.= National Park)

East of the Volta, from north to south:

Kyabobo N.P.	08°20–31'N, 00°35'E
Chai F.R.	08°06'N, 00°23'E
Apepesu F.R.	07°52'N, 00°34'E
Tolome	07°43'N, 00°36'E
Kabo River F.R.	07°33'N, 00°25'E
Odomi F.R.	07°21'N, 00°29'E
Togo Plateau F.R.	07°20'N, 00°24'E
Likpe Todome	07°11'N, 00°36'E
Afadjato Mountain	07°01'N, 00°34'E
Liati Wote	07°01'N, 00°31'E
Amedzofe	06°50'N, 00°26'E
Biakpa	06°50'N, 00°24'E
Tanyigbe	06°42'N, 00°31'E
Akuete	06°34'N, 00°38'E
Kalakpa N.P. (north)	06°27'–06°28'N, 00°20'–00°30'E

West of the Volta, from north to south:

Nsoatre (between Sunyani and Berekum)	07°25'N, 02°30'W
Pamu Berekum	07°20'N, 02°50'W
Afram Headwaters F.R.	07°14'N, 01°44'W
Digya N.P. (south)	07°08'–07°15'N, 00°09'–00°28'W
Bia N.P.	06°35'N, 03°05'W
Below Atewa Range	06°13'N, 00°34'W

Guinea

Kounounkan Forest Reserve	09°31'N, 12°52'W
Mamou	10°14'–10°19'N, 12°06'–12°08'W
Mont Béro	08°08'N, 08°34'W
Pic de Fon, lowland forest (c.570 m)	08°31'N, 08°56'W
higher altitudes (957 m)	08°29'N, 08°54'W
(1,189–1,494 m)	08°32'N, 08°54'W
Sangarédi	11°06'N, 13°46'W
Sarabaya	10°45'N, 14°26'W

Ivory Coast

Mont Péko	07°05'N, 07°13'W
Mont Sangbé (Parc National)	07°58'N, 07°14'W
.....	[between 07°51'–08°10'N and 07°03'–07°23'W]
Mont Tonkoui	07°24'N, 07°36'W

Liberia

Mount Nimba area:

East Nimba Nature Reserve	07°26'N, 08°35'W
Mount Gangra	07°32'N, 08°37'W
Mount Tokadeh	07°27'N, 08°39'W

Sierra Leone

Gola East (Tunkia Nema)	07°24'N, 11°13'W
Gola West (southern edge)	07°22'N, 11°17'W
Loma Mountains, 1,300–1,400 m	09°12'N, 11°08'W
Loma Mountains, c.400 m	09°13'N, 11°11'W

Togo (from north to south)

Dikpéléou	08°13'N, 00°37'E
Diguengué (Assoukoko forest)	08°04'N, 00°38'E
Assoukoko	08°01'N, 00°38'E
Djodji (= Kessibo-Wawa)	07°41'N, 00°35'E
Kougnohou (10 km east of)	07°38'N, 00°51'E
Bénali	07°35'N, 00°44'E
Kpété Béna	07°26'N, 00°36'E
Dzoghégan (Danyi)	07°14'N, 00°42'E
Klouto	06°58'N, 00°35'E

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